County, 35 km (21 mi.) south of Surratt and Greentree Roads. Surratt Road lies in the Carolina Slate Belt, which is characterized by deformed volcanic and sedimentary rocks.

3.1.1 Specimens Preparation

In order to prepare test specimens for compaction, CBR, and DCP testing, the soil samples were air dried to moisture content below that of the desired moisture content. The moisture content was then determined for the air-dried soil. Water was then added to bring the soil to the desired moisture content and the soil was mixed thoroughly until a uniform color was achieved indicating uniform distribution of the moisture within the sample.

Soil specimens were then compacted in the 150 mm (6 in) mold using an automatic compaction hammer. Tests performed for comparison of size effect (150 mm versus 250 mm diameter molds) were manually compacted with a Proctor hammer because the 250 mm (10 in) diameter mold could not be placed in the automatic compaction hammer frame. After compaction, the top of each specimen was carefully trimmed and the CBR test was performed before inverting the specimens and the DCP test was performed. The first blow and the penetration of the first blow were not used in determining the penetration rate (PR).

The test soils were classified per AASHTO M 145-91. Table 3.2 shows a summary of the results of physical properties tests and the associated soil classification. Specimens from Poole and Greentree sites yielded relatively similar values of liquid limit (33% and 30%, respectively) and PI of 13% and 12%. These two soils were classified as A-6 (CL). On the other hand, the soil from Surratt road site exhibited a more plastic behavior and was classified as A-7-6 (CH) with a liquid limit of 55% and PI of 27%.